

1 39476/RRT/S850

ONLINE VALUE BEARING ITEM PRINTING

5 CROSS-REFERENCE TO RELATED APPLICATIONS

This patent application claims the benefit of the filing date of United States Provisional Patent Applications Serial Nos. 60/136,924, filed June 1, 1999 and entitled "INTERNET POSTAGE SYSTEM", 60/139,153, filed June 14, 1999, and entitled "CLIENT 10 SOFTWARE AND USER INTERFACE FOR INTERNET POSTAGE SYSTEM", AND 60/160,491, October 20, 1999, and entitled "SECURE AND RECOVERABLE DATABASE FOR ON-LINE POSTAGE SYSTEM", the entire 15 contents of which are hereby expressly incorporated by reference.

20 FIELD OF THE INVENTION

The present invention relates to secure printing of value-bearing items (VBI) preferably, postage. More specifically, the invention relates to a graphical user interface (GUI) for printing of VBI in a computer network environment.

25 BACKGROUND OF THE INVENTION

A significant percentage of the United States Postal Service (USPS) revenue is from metered postage. Metered postage is generated by utilizing postage meters that print a special mark, also known as postal indicia, on mail pieces. Generally, printing postage and any VBI can be carried out by using 30 mechanical meters or computer-based systems.

With respect to computer-based postage processing systems, the USPS under the Information-Based Indicia Program (IBIP) has 35 published specifications for IBIP postage meters that identify a special purpose hardware device, known as a Postal Security Device (PSD) that is generally located at a user's site. The PSD, in conjunction with the user's personal computer and printer, functions as the IBIP postage meter. The USPS has published a number of documents describing the PSD

1 specifications, the indicia specifications and other related and
 relevant information. There are also security standards for
 printing other types of VBI, such as coupons, tickets, gift
 certificates, currency, voucher and the like.

5 A significant drawback of existing hardware-based systems
 is that a new PSD must be locally provided to each new user,
 which involves significant cost. Furthermore, if the additional
 PSD breaks down, service calls must be made to the user location.
10 In light of the drawbacks in hardware-based postage metering
 systems, a software-based system has been developed that does not
 require specialized hardware for each user. The software-based
 system meets the IBIP specifications for a PSD, using a
 centralized server-based implementation of PSDs utilizing one or
 more cryptographic modules. The system also includes a database
15 for all users' information. The software-based system, however,
 has brought about new challenges.

20 The software-based system should be able to handle secure
 communications between users and the database. The system should
 also be user friendly and be able to provide the user with a
 step-by-step process for installing the client software,
 registering with the system, printing the postage value,
 maintaining and monitoring the user account information, and the
 like.

25 Therefore, there is a need for a new method and apparatus
 for implementation of VBI printing via a user friendly GUI with
 a variety of selectable options.

SUMMARY OF THE INVENTION

30 In accordance with one aspect of the present invention, an
 on-line VBI printing system that includes one or more
 cryptographic modules and a central database has been designed.
 The cryptographic modules serve the function of the PSDs and are
 capable of implementing a variety of required security standards.
 A client system provides a user friendly GUI for facilitating the
35 interface of the user to the system. The GUI system includes

1 wizards that help the user step-by-step with processes of
5 installation, registration, and printing

5 In one aspect, the invention describes an on-line system for
10 printing a value bearing item (VBI) that includes a client system
for interfacing with a user comprising; a GUI for installing
software for printing the VBI; a GUI for registering the user in
the system; and a GUI for managing the printing of the VBI; and
a server system capable of communicating with the client system
over a computer network for authorizing the client system to
print the VBI.

15 Other features of the present invention include a GUI for
making changes to the user's information; a GUI for displaying
the user information including an account information, wherein
the account information includes an amount of credit left in the
20 account; a GUI for specifying an address book so that the system
can use the address book to print addresses; and a GUI for
entering a password so that the server system can store the
entered password and verify the password. In one embodiment, the
server system includes an address matching module for verifying
25 an address entered by the user.

25 In another aspect, the invention describes a method for
printing a value bearing item (VBI) over a computer network
having a client system and a server system comprising the steps
of: displaying a first GUI by the client system for registering
30 a user with the server system over the computer network;
establishing communication with the server via the network;
entering user information in the first GUI; communicating the
entered user information to the server; displaying a second GUI
by the client system including printing options for managing the
35 printing of the VBI; selecting one or more printing options from
the second GUI; and printing the VBI according to the selected
one or more printing options.

BRIEF DESCRIPTION OF THE DRAWINGS

1 The objects, advantages and features of this invention will
become more apparent from a consideration of the following
detailed description and the drawings, in which:

5 FIG. 1 is an exemplary block diagram for the client/server
architecture of one embodiment of the present invention;

FIG. 2 is an exemplary block diagram of a remote user
computer connected to a server via Internet according to one
embodiment of the present invention;

10 FIG. 3 is an exemplary flow diagram of an installation
wizard;

FIG. 4 is an exemplary block diagram of servers, databases,
and services according to one embodiment of the present
invention;

15 FIGs. 5A-5B are exemplary interfaces for application
plugins;

FIGs. 6A-6E are exemplary interfaces for Internet connection
options;

20 FIGs. 7A-7C are exemplary process flow diagrams for a
getting started wizard;

FIG. 7D is an exemplary dialog box for allowing a user to
cancel a getting started wizard;

FIGs. 8A-8B are exemplary interfaces for registration;

FIGs. 9A-9N are exemplary interfaces for registration and
receiving user information;

25 FIG 10A is an exemplary process flow diagram for a
registration wizard;

FIGs. 10B-100 are exemplary interfaces for a registration
wizard;

30 FIGs. 11A-11B are exemplary process flow diagrams for a
print wizard;

FIGs. 11C-11L are exemplary interfaces for a printing
wizard;

FIG. 12A is an exemplary process flow diagram for a re-
registration process;

1 FIGs. 12B-12D are exemplary interfaces for a re-registration
wizard;

FIGs. 13A-13N are exemplary interfaces for a print wizard;

5 FIGs. 14A-14B are exemplary diagrams showing an indicium
printed on an envelop;

FIGs. 15A-15B are exemplary diagrams of an envelop with and
without a graphic placed in the area to the left of the return
address, respectively;

10 FIG. 15C is an exemplary interface for an envelop printing
option;

FIGs. 16A-16B are exemplary interfaces for addition of an
address book;

FIGs. 17A-17G are exemplary interfaces for messages;

FIG. 18 is an exemplary interface for a main menu;

15 FIG. 19A is an exemplary process flow diagram for a change
of address process;

FIGs. 19B-19I are exemplary interfaces for change of
address;

20 FIGs. 20A-20C are exemplary interfaces for change payment
method;

FIGs. 21A-21D are exemplary interfaces for change service
plan;

25 FIG. 21E is an exemplary interface for change e-mail
information;

FIGs. 22A-22B are exemplary interfaces for password entry
& verification;

FIG. 23 is an exemplary interface for a meter withdrawal;

FIG. 24 is an exemplary process flow diagram for a
registration wizard; and

30 FIGs. 25A-25C are exemplary interfaces for setting up a
digital scale.

DETAILED DESCRIPTION

An exemplary on-line postage system is described in U.S.
35 patent Application No. 09/163,993 filed September 15, 1998, the

1 entire content of which is hereby incorporated by reference
herein. The on-line postage system includes an authentication
protocol that operates in conjunction with the USPS. The system
utilizes on-line postage system software comprising user code
5 that resides on a client system and controller code that resides
on a server system. The on-line postage system allows a user to
print a postal indicium at home, at the office, or any other
desired place in a secure, convenient, inexpensive and fraud-free
manner. The system comprises a user system electronically
10 connected to a server system, which in turn is in communication
with a USPS system.

15 Each of the cryptographic modules may be available for use
by any user. When a user requests a PSD service, one of the
available modules is loaded with data belonging to the user's
account and the transaction is performed. When a module is
loaded with a user's data, that module becomes the user's PSD.
The database record containing each user's PSD data is referred
to as the "PSD package". After each PSD transaction is
completed, the user's PSD package is updated and returned to a
database external to the module. The database becomes an
extension of the module's memory and stores not only the items
specified by the IBIP for storage inside the PSD, but also the
user's personal cryptographic keys and other security relevant
data items (SRDI) and status information needed for operating
continuity. Movement of this sensitive data between the modules
and the database is secured to ensure that PSD packages could not
25 be compromised.

30 In one embodiment, the server system is remotely located in
a separate location from the client system. All communications
between the client and the server are preferably accomplished via
the Internet. FIG. 1 illustrates a remote client system 220a
connected to a server system 102 via the Internet 221. The
client system includes a processor unit 223, a monitor 230,
printer port 106, a mouse 225, a printer 235, and a keyboard 224.

1 Server system 102 includes Postage servers 109, Database 130, and
cryptographic modules 110.

5 An increase in the number of servers within the server system 102 will not negatively impact the performance of the system, since the system design allows for scalability. The Server system 102 is designed in such a way that all of the business transactions are processed in the servers and not in the database. By locating the transaction processing in the servers, increases in the number of transactions can be easily handled by
10 adding additional servers. Also, each transaction processed in the servers is stateless, meaning the application does not remember the specific hardware device the last transaction utilized. Because of this stateless transaction design, multiple servers can be added to each appropriate subsystem in order to handle increased loads.

20 Furthermore, each cryptographic module is a stateless device, meaning that a PSD package can be passed to any device because the application does not rely upon any information about what occurred with the previous PSD package. Therefore, multiple cryptographic modules can also be added to each appropriate subsystem in order to handle increased loads. A PSD package for each cryptographic module is a database record, stored in the server database, that includes information pertaining to one customer's service that would normally be protected inside a
25 cryptographic module. The PSD package includes all data needed to restore the PSD to its last known state when it is next loaded into a cryptographic module. This includes the items that the IBIP specifications require to be stored inside the PSD, information required to return the PSD to a valid state when the record is reloaded from the database, and data needed for record security and administrative purposes.

30 In one embodiment, the items included in a PSD package include ascending and descending registers (the ascending register "AR" records the amount of postage that is dispensed or
35 printed on each transaction and the descending register "DR"

1 records the value or amount of postage that may be dispensed and
decreases from an original or charged amount as postage is
printed.), device ID, indicia key certificate serial number,
licensing ZIP code, key token for the indicia signing key, the
5 user secrets, key for encrypting user secrets, data and time of
last transaction, the last challenge received from the client,
the operational state of the PSD, expiration dates for keys, the
passphrase repetition list and the like.

10 As a result, the need for specific PSDs being attached to
specific cryptographic modules is eliminated. A Postal Server
subsystem provides cryptographic module management services that
allow multiple cryptographic modules to exist and function on one
server, so additional cryptographic modules can easily be
installed on a server. The Postal Sever subsystem is easy to
15 scale by adding more cryptographic modules and using commonly
known Internet load-balancing techniques to route inbound
requests to the new cryptographic modules.

20 Referring back to FIG. 1, Postage servers 109 provide
indicia creation, account maintenance, and revenue protection
functionality for the on-line postage system. The Postage
servers 109 include several physical servers in several distinct
logical groupings, or services as described below. The
individual servers could be located within one facility, or in
several facilities, physically separated by great distance but
25 connected by secure communication links.

25 Cryptographic modules 110 are responsible for creating PSDs
and manipulating PSD data to protect sensitive information from
disclosure, generating the cryptographic components of the
digital indicia, and securely adjusting the user registers. When
30 a user wishes to print VBI , for example, postage or purchase
additional VBI or postage value, a user state is instantiated in
the PSD implemented within one of the cryptographic modules 110.
Database 111 includes all the data accessible on-line for indicia
creation, account maintenance, and revenue protection processes.
35 Postage servers 109, Database 130, and cryptographic modules 110

1 are maintained in a physically secured environment, such as a
2 vault.

5 FIG. 2 shows a simplified system block diagram of a typical
6 Internet client/server environment used by an on-line postage
7 system in one embodiment of the present invention. PCs 220a-220n
8 used by the postage purchasers are connected to the Internet 221
9 through the communication links 233a-233n. Each PC has access
10 to one or more printers 235. Optionally, as is well understood
11 in the art, a local network 234 may serve as the connection
12 between some of the PCs, such as the PC 220a and the Internet 221
13 or other connections. Servers 222a-222m are also connected to
14 the Internet 221 through respective communication links. Servers
15 222a-222m include information and databases accessible by PCs
16 220a-220n. The on-line VBI system of the present invention
17 resides on one or more of Servers 222a-222m.

20 In this embodiment, each client system 220a-220m includes
21 a CPU 223, a keyboard 224, a mouse 225, a mass storage device
22 231, main computer memory 227, video memory 228, a communication
23 interface 232a, and an input/output device 226 coupled and
24 interacting via a communication bus. The data and images to be
25 displayed on the monitor 230 are transferred first from the video
memory 228 to the video amplifier 229 and then to the monitor
230. The communication interface 232a communicates with the
servers 222a-222m via a network link 233a. The network link
connects the client system to a local network 234. The local
network 234 communicates with the Internet 221.

30 In one embodiment, a customer, preferably licensed by the
31 USPS and registered with an IBIP vendor (such as Stamps.com),
32 sends a request for authorization to print a desired amount of
33 VBI, such as postage. The server system verifies that the user's
34 account holds sufficient funds to cover the requested amount of
35 postage, and if so, grants the request. The server then sends
authorization to the client system. The client system then sends
image information for printing of a postal indicium for the

1 granted amount to a printer so that the postal indicium is
printed on an envelope or label.

5 When a client system sends a VBI print request to the Server, the request needs to be authenticated before the client system is allowed to print the VBI, and while the VBI is being printed. The client system sends a password (or passphrase) entered by a user to the Server for verification. If the password fails, a preferably asynchronous dynamic password verification method terminates the session and printing of the
10 VBI is aborted. Also, the Server system communicates with a system located at a certification authority for verification and authentication purposes.

15 In one embodiment, the information processing components of the on-line postage system include a client system, a postage server system located in a highly secure facility, a USPS system and the Internet as the communication medium among those systems. The information processing equipment communicates over a secured communication line.

20 Preferably, the security and authenticity of the information communicated among the systems are accomplished on a software level through the built-in features of a Secured Socket Layer (SSL) Internet communication protocol. An encryption hardware module embedded in the server system is also used to secure information as it is processed by the secure system and to ensure
25 authenticity and legitimacy of requests made and granted.

30 The on-line VBI system does not require any special purpose hardware for the client system. The client system is implemented in the form of software that can be executed on a user computer (client system) allowing the user computer to function as a virtual VBI meter. The software can only be executed for the purpose of printing the VBI indicia when the user computer is in communication with a server computer located, for example, at a VBI meter vendor's facility (server system). The server system is capable of communicating with one or more client systems
35 simultaneously.

1 In one embodiment of the present invention, the
cryptographic modules 110 are FIPS 140-1 certified hardware cards
that include firmware to implement PSD functionality in a
cryptographically secure way. The cryptographic modules are
5 inserted into any of the servers in the Postal Server
Infrastructure. The cryptographic modules are responsible for
creating PSDs and manipulating PSD data to generate and verify
digitally signed indicia. Since the PSD data is created and
signed by a private key known only to the module, the PSD data
10 may be stored externally to the cryptographic modules without
compromising security.

15 The on-line VBI system is based on a client/server
architecture. Generally, in a system based on client/server
architecture the server system delivers information to the client
system. That is, the client system requests the services of a
generally larger computer. In one embodiment, the client is a
local personal computer and the server is a more powerful group
20 of computers that house the information. The connection from the
client to the server is made via a Local Area Network, a phone
line or a TCP/IP based WAN on the Internet. A primary reason to
set up a client/server network is to allow many clients access
25 to the same applications and files stored on the server system.

30 In one embodiment, Postage servers 109 include a string of
servers connected to the Internet, for example, through a T1
line, protected by a firewall. The firewall permits a client
system to communicate with a server system, only if the
information packet transmitted by the client system complies with
a security policy set by the server system. The firewall not
only protects the system from unauthorized users on the Internet,
35 it also separates the Public Network (PUBNET) from the Private
Network (PRVNET). This ensures that packets from the Internet
will not go to any location but the PUBNET. The string of
servers form the different subsystems of the on-line postal
system. The services provided by the different subsystems of the

1 on-line postage system are designed to allow flexibility and
expansion and reduce specific hardware dependency.

The Database subsystem is comprised of multiple databases. FIG. 4 illustrates an overview of the on-line VBI system which includes the database subsystems. Database 411 includes the Affiliate DBMS and the Source IDs DBMS. The Affiliate DBMS manages affiliate information (e.g., affiliate's name, phone number, and affiliate's Website information) that is stored on the Affiliate Database. Using the data from this database, marketing and business reports are generated. The Source IDs Database contains information about the incoming links to the vendor's Website (e.g., partners' information, what services the vendor offers, what marketing program is associated with the incoming links, and co-branding information). Using the data from this database, marketing and business reports are generated.

The Online Store Database 412 contains commerce product information, working orders, billing information, password reset table, and other marketing related information. Website database 410 keeps track of user accesses to the vendor website. This database keeps track of user who access the vendor website, users who are downloading information and programs, and the links from which users access the vendor website. After storing these data on the Website Database 410, software tools are used to generate the following information:

- Web Site Status
- Web Site Reports
- Form Results
- Download Successes
- Signup, Downloads, and Demographic Graphs
- Web Server Statistics (Analog)
- Web Server Statistics (Web Analyzer)

Offline database 409 manages the VBI (e.g., postal) data except meter information, postal transactions data, financial transactions data (e.g., credit card purchases, free postage issued, bill credits, and bill debits), customer marketing

1 information, commerce product information, meter license information, meter resets, meter history, and meter movement information. Consolidation Server 413 acts as a repository for data, centralizing data for easy transportation outside the vault
5 400. The Consolidation Server hosts both file and database services, allowing both dumps of activity logs and reports as well as a consolidation point for all database data. The Offline Reporting Engine MineShare Server 415 performs extraction transformation from the holding database that received
10 transaction data from the Consolidated Database (Commerce database 406, Membership database 408, and Postal Database 407). Also, the Offline Reporting Engine MineShare Server handles some administrative tasks. Transaction data in the holding database contains the transaction information about meter licensing information, meter reset information, postage purchase transactions, and credit card transactions. After performing extraction transformation, business logic data are stored on Offline Database 409. Transaction reports are generated using the data on the Offline Database. Transaction reports contain
15 marketing and business information.

20 The Data Warehouse database 414 includes all customer information, financial transactions, and aggregated information for marketing queries (e.g., how many customers have purchased postage). In one embodiment, commerce Database 406 includes a
25 Payment Database, an E-mail Database, and a Stamp Mart Database. The E-mail DBMS manages access to the contents of e-mail that were sent out to everyone by vendor servers. The Stamp Mart database handles order form processing. The E-commerce Server 404 provides e-commerce related services on a user/group
30 permission basis. It provides commerce-related services such as payment processing, pricing plan support and billing as well as customer care functionality and LDAP membership personalization services. A Credit Card Service is invoked by the E-commerce Server 404 to authorize and capture funds from the customer's credit card account and to transfer them to the vendor's merchant
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1 bank. A Billing Service is used to provide bills through e-mail
to customers based on selected billing plans An ACH service runs
automatically at a configurable time. It retrieves all pending
5 ACH requests and batches them to be sent to bank for postage
purchases (i.e. money destined for the USPS), or Chase for fee
payments which is destined for the vendor account.

The E-commerce DBMS 406 manages access to the vendor
specific Payment, Credit Card, and Email Databases. A Membership
DBMS manages access to the LDAP membership directory database 408
10 that hosts specific customer information and customer membership
data. A Postal DBMS manages access to the Postal Database 407
where USPS specific data such as meter and licensing information
are stored. A Postal Server 401 provides secure services to the
Client, including client authentication, postage purchase, and
15 indicia generation. The Postal Server requires cryptographic
modules to perform all functions that involve client
authentication, postage purchase, and indicia generation.

Postal Transaction Server 403 provides business logic for
postal functions such as device authorization and postage
purchase/register manipulation. The Postal Transaction Server
requires the cryptographic modules to perform all functions.
There are four Client Support Servers. Address Matching Server
20 (AMS) 417 verifies the correct address specified by a user.
When the user enters a delivery address or a return address using
the Client Software, the user does not need the address matching
25 database on the user's local machine to verify the accuracy of
the address. The Client software connects to the vendor's server
and uses the central address database obtained from the USPS to
verify the accuracy of the address. If the address is incorrect,
30 the client software provides the user with a prioritized list of
addresses to match the correct address. These choices are ranked
in a user definable order. This information is represented using
a plain text format.

The Client Support Servers 417 provides the following
35 services: a Pricing Plan service, an Auto Update service, and a

1 Printer Config service. The Pricing Plan Service provides
information on pricing plans and payment methods available to the
user. It also provides what credit cards are supported and
whether ACH is supported. This information is represented
5 preferably using a plain text format. The Auto Update Service
verifies whether the user is running the latest Client Software.
If there is newer Client Software, the Auto Update Server
downloads the new patches to the user computer. The Client
Support Database has tables for the client software update
10 information. This information is represented using a plain text
format. Before the user tries to print postage, the user sends
his or her printer driver information over the Internet in plain
text. A Printer Config Service looks up the printer driver
information in the Printer Driver Database to determine whether
the printer driver is supported or not. When the user tries to
15 configure the printer, the user prints a test envelope to test
whether the postage printing is working properly or not. This
testing envelope information is sent over the Internet in plain
text and is stored in the Client Support Database.

20 MeterGen server 422 makes calls into the cryptographic
module to create sufficient meters to ensure that the vendor can
meet customer acquisition demands. SMTP Server 418 communicates
with other SMTP servers, and it is used to forward e-mail to
users. Gatekeeper Server works as a proxy server by handling the
25 security and authentication validation for the smart card users
to access customer and administration information that reside in
the vault. The Proxy Server 423 uses the Netscape™ Enterprise
SSL library to provide a secure connection to the vault 400.
Audit File Server 419 acts as a repository for module transaction
30 logs. The Audit File Server verifies the audit logs that are
digitally signed. The audit logs are verified in real time as
they are being created. Postal Server writes audit logs to a
shared hard drive on the Audit File Server. After these logs are
verified, the Audit File Server preferably moves them from the
35

1 shared hard drive to a hard drive that is not shared by any of
the vendor servers.

Provider Server provides reporting and external
communication functionality including the following services.
5 CMLS Service forwards license applications and it processes
responses from CMLS. The CMLS Service uses cryptographic
functions provided by the Stamps.com Crypt library to decrypt the
user's SSN/Tax ID/Employee ID. CMRS Service reports meter
movement and resetting to the USPS Computerized Meter Resetting
10 infrastructure. ACH Service is responsible for submitting ACH
postage purchase requests to the USPS lockbox account at the
bank. The CMLS Service uses cryptographic functions to decrypt
the user's ACH account number. After decrypting ACH account
information, the ACH is encrypted using the vendor's script
15 library. Then, the encrypted ACH file is e-mailed to the
Commerce Group by the SMTP server. When the Commerce Group
receives this encrypted e-mail, the vendor's Decrypt utility
application is used to decrypt the ACH e-mail. After verifying
the ACH information, the Commerce Group sends the ACH information
20 through an encrypted device first and then uses a modem to upload
the ACH information to a proper bank. The Certificate Authority
issues certificates for all IBIP meters. The certificates are
basically used to provide authentication for indicia produced by
25 their respective meters.

25 The following are the steps describing the certificate
authorization process:

- MeterGen asks the module to create a meter package,
- The module returns a package and the meter's public key,
- MeterGen creates a certificate request with the public key,
30 signs the request with a USPS-issued smartcard, and submits
the request to the USPS Certificate Authority,
- The Certificate Authority verifies the request came from
the vendor then, it creates a new certificate and returns
it to MeterGen,

1 • MeterGen verifies the certificate using the USPS
5 Certificate Authority's certificate (e.g., to ensure it
 wasn't forged) and stores the certificate information in
 the package. The package is now ready to be associated
with a customer.

10 The Postal Server subsystem 401 manages client and remote
 administration access to server functionality, authenticates
 clients and allows clients to establish a secure connection to
 the on-line postage system. The Postal Server subsystem also
15 manages access to USPS specific data such as PSD information and
 a user's license information. The Postal Server subsystem
 queries the Postal portion of the Database subsystem for the
 necessary information to complete the task. The query travels
 through the firewall to the Postal portion of the Database
 subsystem. The Postal Server subsystem is the subsystem in the
 Public Network that has access to the Database subsystem.

20 In one embodiment of the present invention, Postal Server
 401 is a standalone server process that provides secure
 connections to both the clients and the server administration
 utilities, providing both client authentication and connection
 management functionality to the system. Postal Server 401 also
 houses postal-specific services that require high levels of
 security, such as purchasing postage or printing indicia. Postal
 Server 401 is comprised of at least one server, and the number
 of servers increases when more clients need to be authenticated,
25 are purchasing postage or are printing postage indicia.

30 The growth in the number of servers of the Postal Server
 will not impact the performance of the system since the system
 design allows for scalability. The Postal Server is designed in
 such a way that all of the business logic is processed in the
 servers and not in the database. By locating the transaction
 processing in the servers, increases in the number of
 transactions can be easily handled by adding additional servers.
 Also, since each transaction is stateless (the application does
35 not remember the specific hardware device the last transaction

1 utilized), multiple machines can be added to each subsystem in
order to handle increased loads. In one embodiment, load
balancing hardware and software techniques are used to distribute
traffic among the multiple servers.

5 The client software includes GUI and wizards for software
installation, user registration, printing of VBI, account
information access, payment, and the like. An installation
wizard helps the user to install the client software. FIG. 3 is
an exemplary flow for the installation routine. In blocks 301-
10 305, the user agrees to the software license agreement and
selects a destination directory and folder for the installation
software. In blocks 306-307, the user selects the appropriate
ISP and connects to Internet. Links to other application
software and address book are installed in blocks 308 and 309,
15 respectively. Any desired plugin software is downloaded and
installed in blocks 312 and 315. In block 311, the program files
are installed and in block 314 the Readme is installed and the
user computer is re-booted. The install wizard supports an Auto
Update before the software is installed. Specifically, the
20 install wizard checks the server for a newer version of the
client software before installing the software. If a newer
version is available, then the install wizard notifies the user
that a newer version is available on the server, and prompts the
user whether or not the file is downloaded. If a newer version
25 is not available, then the install wizard proceeds.

The install routine supports the installation of third party
applications, including MS Word™, and Word Perfect™. The plugins
for these applications are preferably included in the download
file. The install wizard preferably prompts the users which of
30 these, if any, they would like to install. An exemplary
interface is shown in FIG. 5A. Address book plugins help the
user select an appropriate plugin to support the function of an
address book. The Install Address Book plugins are not part of
the standard download file in the preferred embodiment. Rather,
35 each plugin is its own file that resides on the web. The install

1 wizard preferably prompts the user which, if any of the plugins
is installed. If multiple selections are made, the user is
prompted for a default address book. The interface for this
function is shown in FIG. 5B. This list is dynamic so that the
5 Address Book plugins can be added or subtracted without requiring
a full client update.

10 The installation routine also supports OEM branding.
Specifically, the install wizard is such that the elements
described in OEM branding are stored in a resource file, so that
the install routine itself preferably does not need to be changed
- rather the resource file is changed. The installation routine
or the Getting Started wizard also supports the OEM branding
requirements. Specifically, a cookie is read and its contents
are uploaded to the server.

15 FIGs 6A-6E are exemplary interfaces for the Internet
connections. As shown in FIG. 6A, once the "I connect with my
modem..." radio button is selected, the "Click here to confirm
settings text" and "Settings..." button become available. When "I
connect using AOL" is chosen, then an additional wizard screen
is seen by the user as shown in FIG. 6B...If "I connect using
20 CompUServe is chosen, an additional wizard screen is seen by the
user as shown in FIG. 6B.

25 When the user first attempts to log in, and a connection
cannot be established, an error message appears based upon which
connection method the user has chosen. In one embodiment, if the
user chose to connect by a local area network, the error message
shown in FIG. 6C appears. if the user chose to connect by a dial
up networking connection, the error message shown in FIG. 6D
appears. if the user chose to connect using AOL, the error
30 message shown in FIG. 6E appears.

35 Before a user can begin to print postage, a significant
number of tasks are preferably first completed. These steps are
combined into a wizard that launches after the customer installs the
client software. The preferred goal is to provide a single,
streamlined interface that removes any interruptions once the user

1 completes the wizard. The overall flow of the user experience in
getting started with the software is shown in FIG. 7A. The Getting
Started wizard includes five main components, a Welcome component
is responsible for welcoming the user (customer), and determining
5 whether or not the user should proceed through the complete
Getting Started wizard at this time. A Sign up for Service group
of screens leads the customer through signing up for a service
plan. A Registration wizard group of screens handles the meter
license application, and can also be accessed through the client
10 application through the Options screen. A Print Setup group of
screens take the user through printer verification and printing
a quality assurance (QA) envelope. This component of the Getting
Started wizard includes several independent wizards which can be
accessed through the client software. The Finish portion of the
15 Getting Started wizard congratulates the user and launches the
client software. Preferably, the Getting Started wizard is
comprised of multiple components to facilitate their reuse as
individual wizards within the client software.

20 Typically, the volume of screens that make up the Getting
Started wizard are significant. In order to prevent the user
from being overwhelmed with the process, preferably the system
constantly gives the customer a sense as to where they are in the
process. To satisfy this goal, the software utilizes a "Follow
25 the Yellow Brick Road" interface, which constantly updates the
users on their progress in the wizard. The left side graphic
area is used to indicate which of these stages that the user is
currently in. In one embodiment, the stage is indicated using
text, with the current stage being highlighted. Using text
rather than graphics helps minimize the download size.

30 Each screen of the Getting Started wizard preferably has a
Help button which links to a portion of the Help file that
pertains to that screen. Whenever a combo box is used in this
wizard, by default no item is selected, and the prompt "select
35 one" preferably appears to the user. Preferably, every screen
in the Getting Started wizard has a Cancel button on it. The

1 functionality of these buttons is consistent throughout the
wizard. The various functions that are executed when a user
selects the Cancel button are described below.

5 The Verification Prompt is a standard prompt that verifies
the user indeed would like to cancel the wizard. This is
accomplished through a standard dialog box as shown in FIG. 7D.
A Save Data button is also provided. When the user selects the
Cancel button, all of the data that the user has input is saved
locally. If the user starts the Getting Started wizard at a
10 later time, all of the information that was previously entered
is filled into the appropriate screen in the wizard. Using an
upload Data button, the client preferably uploads the following
data to a log on one of the servers; Customer email, the screen
that the user catcalled on (resource ID), and the source (OEM
partner, affiliate, etc.). When the Getting Started wizard first
attempts to establish an Internet connection and experiences an
error in connecting, error messages appear depending upon the
connection method chosen by the user.

15 The Welcome portion of the Getting Started wizard provides
two functions. First, it welcomes the user to the process and
gives the user an idea of what is involved in the process.
Second, it determines whether or not a user should complete the
Getting started wizard at this time. There are two reasons why
a user is kept from completing the Getting Started wizard, as
20 shown in FIG. 7B. The first is if the user has previously
completed the Getting Started wizard, shown by block 721. The
second is when the provider's service is over booked and there
is no opening available for the user, as shown by block 723.
When this portion of the Getting Started wizard has begun, the
25 Follow the Yellow brick Road text t reads "Start". The logical
flow of the Sign up for Service component is shown in FIG. 7B.

30 The Welcome Screen #1 720, in FIG. 7B, lists three major
steps that the customer should complete in order to finish the
wizard. As shown in FIG. 8A, the screen includes a smaller
35 version of each screen group graphic to help the customers

1 recognize each screen group as they come to it. The "Welcome" step of the "Follow the Yellow-brick Road" list is highlighted to show the customers that they are on the Welcome screen. A check box allows a user to skip the Registration and Print Configuration wizard. If the user selects the check box, the wizard closes and the "rereg" dialog box appears. The default state for the check box is unselected.

5
10 If there is no slot available for the user, the Welcome Screen #2 725, in FIG. 7B, appears to the user in the event that the user cannot be signed up the user at that time. A URL link button links the user to the web site on the page where the user can pre-register, as shown in FIG. 8B. By pre-registering, the user will later be notified when a slot is available.

15 At this point in the Getting Started wizard, the client preferably downloads information from the server for use throughout the remainder of the wizard. Specifically, the information that is downloaded includes Service Plan Information such as Plan Name, Plan ID, Text file describing all of the plans, Contract for the plan (text file), Min purchase amount, Max purchase amount, Purchase Upfront (y/n), URL link to full description (common web link for all plans), Preferred Service Plan; and Payment Information including Payment types accepted, and Preferred payment type.

20
25 The Sign up for Service component of the Getting Started wizard extracts all of the information required to sign up the user for service with the provider. When this portion of the Getting Started wizard has begun, the "Follow the Yellow Brick Road" text is changed to "Register with Provider" (e.g., Stamps.com). The logical flow of the Sign up for Service component is shown in FIG. 7C.

30
35 Service Screen #1 (block 730 of FIG. 7C) is shown in FIG. 9A. The "Send me information..." checkbox is checked by default. Selection of this check box provides a database entry that designates that the provider and its partners have the right to solicit the user with marketing programs. The "Next>" button is

1 not enabled until all required information is filled in. Required information for this screen includes the First Name, Last Name, Phone, and Email.

5 Service Screen #2 (block 731 of FIG. 7C) is depicted in FIG. 9B. The fields in the upper portion of the screen allow the user to enter the physical location of the user computer. The lower portion of the screen allows the user to enter mailing address information in one of two ways. If the user selects the "Use physical address" check box, the values stored for the 10 mailing address are made to be the same as those of the physical address, and the "Next>" button becomes enabled. Otherwise, the mailing address fields are enabled for user input. The "Next>" button is not enabled until all required fields are filled in. After the user selects "Next>", an AMS check on the address is performed, as shown by block 732 of FIG. 7C. The client checks for a PO Box in the physical address fields, as shown by block 733 of FIG. 7C. In blocks 734 and 735, if a P.O. Box is provided, an error message preferably indicates that a P.O. Box is not acceptable.

20 After service screen #2 is completed, in block 736, an AMS check on the addresses is run. Also, a check is made as to determine whether the zip code that the user provides is currently the one that is supported, as shown in block 737. If it is determined that the physical zip code is one that is supported, the user continues with service screen #3 in block 25 739. If the zip code is NOT one that is supported, Service Screen #2a appears to notify the user that the user is unable to sign up at this time, as depicted in block 738. An exemplary interface for Service Screen #2a is shown in FIG. 9C. A URL link 30 button links the user to the provider's site on the page where the user can pre-register. By pre-registering, the user is notified later when a slot is available within the zip code for the physical address that is provided.

35 In block 739, the user enters "user name" and "password." An exemplary interface for Service Screen #3 is shown in FIG. 9D.

1 The password preferably comprises at least 6 characters, with at
2 least 1 alpha character and 1 numeric character. The "Next>"
3 button is not enabled until all the information has been filled
4 in. In block 743, Service Screen #4 captures information that
5 either Customer Service or the client software can use to verify
a customer's identity in the event that the customer loses
6 his/her password. An exemplary interface for Service Screen #4
7 is shown in FIG. 9E. The key word, or "secret code" is the
8 answer that the user gives to a question selected by the user.

9 The default questions that the user may select from include;

- What is your mother's maiden name?
- What is your favorite pets name?
- What is your favorite vacation spot?
- What is your place of birth?

10 After selecting a question, the user can enter a response
11 into an edit field. The "Next>" button is not enabled until
12 after the information is filled in.

13 In block 744, in Service Screen #5, the users specify how
14 they will use the account. Preferably, none of the radio buttons
15 are selected on open. An exemplary interface for Service Screen
16 #5 is shown in FIG. 9F. The company information fields and text
17 are grayed-out and disabled until the user selects one of the
18 three business radio buttons. The "Next>" button is not enabled
19 until the user selects the "Personal/Individual" radio button or
20 until the required business fields are populated if the user
21 selects one of the business radio buttons. In addition to
22 storing the user's response for use by the provider, the user's
23 input is interpreted in order to pre-fill portions of the meter
24 license. Specifically, if the user selects the first radio
25 button, "Personal/Individual Use", the user is categorized as a
26 "personal" user for the meter license application. If any of the
27 other three radio buttons are selected, the user is categorized
28 as a business user for the meter license. If the user selects
29 one of the business categories, the data input into the business
30 fields is stored both for use by the provider and for insertion
31

1 into the meter license application.

5 Service Screen #6, in block 745, provides several types of information all related to the user's postage usage habits, for use both by the provider and the USPS. In this screen, as depicted in FIG. 9G, the user specifies their mail volume using a spinner box and the letter category is split into window and standard envelopes. In addition, a question is asked with yes or no radio button response options (Do you currently lease or rent a traditional postage meter?). The "Next>" button is
10 preferably not enabled until the user has selected a value in each box. The mail volume box is blank by default. Each of the four percentage boxes preferably has a 0 in it. When the user hits the "Next>" button, verify that the percentage boxes add up to 100%. When storing the percentages for use in the USPS meter license application, the first two percentages (letters - standard envelopes and letters -windowed / pre printed) are added together to create the value for the USPS "letters" category. The other two percentages map equally to their USPS counterparts.

15 Service Screen #7 (block 746) allows the user to select a service plan from the provider. The following information is preferably downloaded at the beginning of the registration wizard: Service Plan names, a URL to a page on the provider's web site that describes the service plans in detail, and text files describing each service plan. FIG. 9H depicts an exemplary interface for this screen. The drop down box preferably displays all available plans at the time. No plans are selected by default, and the prompt "Select One" appears. At this time, a text file that briefly describes all of the plans currently available is displayed in a scrollable text window below. Once 20 the user selects a plan, the text file below is changed to display a text file that describes only that plan. If a preferred service plan is defined, this plan is the first one to appear on the drop down list (still none of the plans selected by default). A URL link takes the user to provider's web site 25 for details on the plans. The "Next>" button is disabled until

1 the user selects a plan.

As illustrated in block 747, Service Screen #8 displays the service contract for the service plan that the user selected on the previous screen. This contract is a text file, which is
5 downloaded at the beginning of the registration wizard. As shown in FIG. 9I, neither of the two radio buttons are selected by default, and the "Next>" button is disabled until the user selects one of the choices. If the user selects "I Accept", the wizard will continue. If the user selects "I do NOT accept", a
10 message box should appear as described below. This wizard screen should still remain open in the background behind this dialog box. If the user selects "I do NOT Accept on Screen #8 of FIG. 9I, a dialog box, shown in FIG. 9J, appears indicating that the user must accept the terms in order to sign up with the provider. If the user selects "Go Back", this dialog Box closes, and the user is brought back to screen #8 of the wizard. If the user selects "Cancel", the Getting Started is canceled.

15 Service Screen #9, depicted in FIG. 9K, is built dynamically, depending upon a user's response to the payment type
20 prompt. The payment type field is empty by default. The values available for this field are preferably downloaded when the registration wizard begins. The "Next>" button is disabled before AND after a value is selected for the payment type. The
25 "Next>" button remains disabled until the screen dynamically builds, and all of the fields are completed by the user. If a preferred payment method is defined, this method of payment is the first one to appear on the drop down list (still none of the payment method types are selected by default).

30 If a credit card is selected as the method of payment in decision block 750, the fields shown in the screen of FIG. 9L appear. The cardholder name and card number are both edit boxes. The expiration date is entered using two combo boxes. The prompt for the billing address allows the user to either enter an address manually, or copy the address given on service screen #2
35 as a mailing address. If the user selects the "Use Mailing

1 "Address" check box, the mailing address information is copied
 into the billing address fields, and these fields are disabled.
 All fields preferably should be filled in before the user can
 proceed. After the user selects "Next>", an AMS check on the
5 address is performed, as shown in block 753.

10 If ACH method of payment is selected in decision block 750,
 the fields shown in screen of FIG. 9M appear. All fields
 preferably should be filled in before the user can proceed.
 Service Screen #10, in block 756 or 757, allows the user to
 purchase postage. The order is accepted at this time, but is not
 processed until the meter license has gone through. At the
 beginning of the registration wizard, the maximum and minimum
 purchase amounts associated with a service plan are downloaded.
15 As shown in FIG. 9N, the user can enter a purchase in one of two
 ways: by selecting a pre-defined amount or by entering an amount
 into an edit box. In one embodiment, the pre-defined values of
 the radio buttons are \$10, \$25, \$50, \$100, and \$200. If any of
 these values are lower than the minimum purchase amount
 associated with the plan that the user has selected, then the
 associated radio button(s) is disabled. Similarly, if any of the
 pre-defined values are higher than the maximum purchase amount
 allowed by the plan that the user selected, then the associated
 radio button(s) is disabled. The Purchase Postage control allows
 the user to enter in both dollars and cents values. Preferably,
20 none of the radio buttons are selected by default. If the
 selected plan offers free postage without requiring a purchase,
 the "Next>" button is always available. Otherwise, the "Next>"
 button is disabled until a purchase amount is selected. If the
 service plan selected by the user does not require the immediate
25 purchase of postage, an additional radio button should appear
 which allows the user to select a value of "none."

30 As described above, the Registration Wizard is capable of
 gathering all of the information that is required by the USPS for
 a Meter License Application. The information that is extracted
35 in this wizard is used to generate a USPS 3601A form. FIG. 10A

1 is an exemplary flow of the Registration wizard component of the
Getting Started wizard. When this portion of the Getting Started
wizard has begun, the Follow the Yellow Brick Road text is
changed to "Apply for a Postage Meter". In block 1010, License
5 Screen #1 serves the purpose of letting the user know that he/she
is entering the portion of the wizard where the meter license is
filled out. The follow the Yellow Brick Road text will change
to meter License application., as shown in FIG. 10B.

10 In block 1011, the user determines whether they are a
business or and end user. In License Screen #2 (block 1012), the
user specifies which identification number they wish to use.
None of the radio buttons are selected on open, as shown in FIG.
15 10C. The "Next." button as well as the Tax ID#, EIN, and SSN
fields are grayed-out and disabled. When the user selects a
radio button, it enables the corresponding field. When the user
begins to enter data in a field, it enables the "Next>" button.
License Screen #3 (block 1013) is for the user to answer some
business related questions, as depicted in FIG. 10D. The "Next>"
button is not enabled until the questions are answered.

20 License Screen #3a (block 101a) only appears to business
users. As illustrated in FIG. 10E, neither of the radio buttons
are selected by default, and the edit fields and the Next button
are preferably unavailable when the user first sees this screen.
If the user selects "Yes", the Next button becomes available.
25 If the user selects "No", the edit fields become available. Once
all of the required fields have been completed, the Next button
becomes available. License Screen #4 (block 1015) of FIG. 10F
includes a field in which the user enters a Social Security #.
The "Next>" button is not enabled until the field is filled in
30 with a nine digit number. In License Screen #5 (block 1016) of
FIG. 10G, neither radio button is selected by default. The
"Next>" button is initially disabled. If the user selects the
"No" radio button, the "Next>" button becomes available. If the
user selects the "Yes" radio button, the "Next>" button is not
35 enabled until at least one set of license and finance numbers

1 have been entered.

FIG. 10H is an exemplary interface for License Screen #6 of block 1017. In this screen, neither radio button is enabled by default. The "Next>" button is enabled if the user selects the "No" radio button or once the revoked reason field is populated if the user selects the "Yes" button. FIG. 10I is an exemplary interface for License Screen #7 of block 1018. In this screen, a check box is used to verify the accuracy of the information. Once the check box is selected, the "Next>" button is enabled and the information is submitted to the server. If the user does not select the checkbox, the only options are to go back and make changes or cancel the Getting Started wizard. In addition to the information that was gathered during the wizard, the following information need also be submitted; OEM #, Tracking #, 3rd Party Applications installed, and the Address Books that were installed.

An exemplary interface for License Screen #8 (block 1019) is illustrated in FIG. 10J. This screen serves the purpose of providing a status to the user while all of the information that has been provided in the wizard, including payment information, is uploaded. In addition to uploading the information that has been extracted as part of the Getting Started wizard, the OEM tracking ID is uploaded as well. For OEM partners, the ID is in a registry key. Initially, the "Next>" button on this screen is disabled, and only the text in the upper portion of the screen appears. Once the communication with the server is completed, the text "Select Next to continue" appears, and the "Next>" button becomes available.

In blocks 1021 and 1023, the information entered by the user is checked for any potential errors and the errors are reported to the user. Once the information has been submitted, the server is able to communicate if any of three errors occur with the information that the user has provided. These errors include a non unique user name, bad ACH information, and rejected credit card payment. If any of these errors occur, a wizard screen

1 appears that dynamically displays the error that is returned from
the server. When the user selects "Next>", the appropriate
wizard screen shown in FIG. 10K appears and allows the user to
resubmit information. Preferably, the User cannot continue until
5 the error is corrected. After correcting the error, the wizard
returns to the submit screen. If an additional error is found,
this routine is repeated.

10 In block 1028, if the user submits a non unique user name,
the dialog box of FIG. 10L appears. This dialog box preferably
has the same functionality of the user name wizard screen, except
that the lower portion (the password portion) is not displayed,
the suggest button appears, and the text changes as shown. If
the user selects the Suggest button, the client populates the
user name field with the suggestion that is sent down from the
15 server. In block 1026, if the ACH check indicates that there is
a problem with the ACH information, the dialog box depicted in
FIG. 10M appears. This dialog is preferably the same as the
select payment screen of the wizard, with one exception; the
Payment Type is pre-filled with the selection "ACH" and as a
20 result the ACH fields will be available. These fields are
preferably pre-populated.

25 In block 1027, if a reject on a credit card process is
received, the dialog box shown in FIG. 10N appears. This dialog
is preferably the same as the select payment screen of the
wizard, however, the Payment Type is pre-filled with the original
credit card selection, with all of the associated fields pre-
filled. In block 1024, the License Screen # 9, illustrated in
FIG. 10O, serves the purpose of letting the user know that the
meter license portion has been completed, and that the Print
30 Configuration will be next. In addition, this screen dynamically
lets the user know what the expected wait time is in the second
paragraph based upon a "license approval delay variable" that is
downloaded from the server. If the license approval delay
variable is "0" (i.e. instant approval) then the second
35 paragraph is not displayed. If the license approval delay has

1 a value other than 0, the second paragraph is displayed and
dynamically inputs the delay amount as shown below. The variable
number that is provided by the server is in hours. Once this
5 verification is completed the user may proceed to Print Setup
wizard, as shown in block 1025.

10 The Print Setup portion of the Getting Started wizard
includes several wizard components, which can be broken out and
used individually in the client software. These wizards are
brought together into the Print Setup portion of the Getting
15 Started wizard to provide all of the printing oriented checks and
tasks that a user should complete before starting with the
software. These include: Print Verification, Print QA envelope,
and Determine top, center, or bottom envelope feed (if
necessity). When this portion of the Getting Started wizard has
begun, the Follow the Yellow Brick Road text is changed to "Test
Printer". An exemplary flow of the Print Setup component is
shown in FIG. 11A.

20 In block 1101, Print Setup Screen #1 is used to select
default printer. This screen, shown in FIG. 11C, prepares the
user for testing on the user's printer. A drop down box displays
all of the printers that are installed on the user's system, and
allows them to select the default printer to be used. When a
25 user selects a printer, this printer is considered as being
selected for the print jobs that are performed during this
section of the wizard. In addition, this default selection is
incorporated into the standard Print Prepare dialog box, and is
therefore the printer chosen until the user selects otherwise.
None of the printers is selected by default, and the "Next>"
30 button preferably is not available until the user selects a
printer.

35 In block 1102, Print Setup Screen #2, shown in FIG. 11D,
allows the user to select two bits of information that are
required before the print testing functions can be undertaken.
The first is a drop down box, which allows users to select a
envelope size to be used throughout the tests. These tests do

1 not allow a user to use labels, so only the envelope options
5 appear. The second bit of information is whether or not the user
wants to omit the return address or not. The user prompt is
10 preferably different here than in the Print Options dialog. In
this case, if the user selects, "yes", the return address is
printed. If the user selects "no", the return address should not
be printed. The answers to both of these items are stored and
used for all testing undertaken within this portion of the
15 wizard. The information that is gathered here is also used to
populate the corresponding fields within the Print Postage and
Print Options dialog boxes when the user first launched these
screens. Neither the envelope sizes, nor the radio buttons
contain values by default. Furthermore, the "Next>" button is
20 preferably not available until the user selects an envelope size
and answers the yes/no question.

25 In block 1103, it is determined whether the default printer
information is in the printer database. If the printer
information is not in the database, a printer troubleshooting
routine is performed, as shown in block 1104. If the printer
information is in the database, printer Screen #3, depicted in
FIG. 11E, appears. This screen serves the function of notifying
the user that postage is about to be printed, and making the user
aware that an envelope must be loaded into the feeder. A graphic
of an envelope being placed into a printer is preferably used to
help reinforce the action to the user. This screen is used
multiple times during the Printer Setup portion of the Getting
Started wizard. See the flow diagram for further details. The
"Next>" button is available immediately. Once the "Next>" button
30 has been selected, a sample QA envelope is printed, as shown in
block 1106. In block 1107, the sample is compared with a sample
shown in Printer Screen #4 of FIG. 11F. In this screen, neither
of the radio buttons is selected by default, and the "Next>"
35 button is not available until the user selects one. In block
1108, if the samples do not compare, printer troubleshoot 2 is
activated to perform the troubleshooting task, as illustrated in

1 block 1109. If the samples compare correctly, the printer
information is uploaded and the money in the meter is checked,
as shown in blocks 1110 and 1111 respectively.

5 Similar to Printer Screen #3, Printer Screen #4 serves the
function of educating the user about QA envelopes, notifying the
user that postage is about to be printed, and making the user
aware that an envelope needs to be loaded into the feeder. A
graphic of an envelope being placed into a printer is used to
help re-enforce the action to the user. This section of the
10 wizard, illustrated in FIG. 11G, only appears if there is money
in the user's meter (this requires instant meter approval), as
shown in blocks 1111 and 1112. The "Next>" button is available
immediately. Once the "Next>" button has been selected, a QA
envelope is printed in block 1114.

15 Next, in block 1115, Printer Screen #6, shown in FIG. 11H,
appears. This screen's primary function is to educate the user
that the QA envelope should be sent in immediately, or the user's
meter license may be revoked. A graphic of an envelope being
placed into a mail box is used to help re-enforce the action to
the user. The "Next>" button is available immediately.

20 In the event that the user's printer is not in the printer
database, the Print Configuration wizard is initiated. An
exemplary flow for the Print Configuration wizard is shown in
FIG. 11B. The first screen in this wizard is Printer Setup
25 screen #3 (see FIG. 11E), which prompts the user to place an
envelope in the printer feed tray. Once the user selects
"Next>", a pattern including a circle, a square, and a triangle
is printed. Only one of these shapes completely prints onto the
envelope fed through the printer, so based upon which shape
30 appears to the user, the system can ascertain if the printer
feeds envelopes from the top, center, or bottom. The Printer
Screen #7, shown in FIG. 11I, provides a means by which users can
tell the client which of the shapes appear on the envelope. This
is done through a series of radio buttons. None of the radio
35 buttons is selected by default, and the "Next>" button is not

1 available until the user selects one of the options. If the user
selects either the circle, square, or triangle, the appropriate
offset is made, the information is sent to the server, and the
user continues with screen #8 as shown in block 1126 and 1127.

5 In block 1123, if the user selects "none of the above match
what I see" on screen # 7, Printer Screen #8, shown in FIG. 11J,
appears to ask the user which option the user would like to
pursue at this time. Three radio buttons provide the options.
If the user selects the Try printing another sample option,
10 another shape design is sent to the printer, so that the
comparison process can be undertaken again. Selecting the Try
printing another sample to a different printer option links the
user back to screen #1 of the Print Setup, allowing the user to
select another printer and start the process again. Selecting
15 the Neither of these solutions work option indicates that the
system cannot determine a feed offset and therefore cannot print
envelopes using the user's printer. When "Next>" is selected,
the message on screen #9 conveys this to the user. None of the
radio buttons is selected by default, and the "Next>" button is
not available until the user selects one of the options.

20 If the user selects "neither of these solutions work" on
screen # 8, print envelope is disabled and Printer Screen #9,
shown in FIG. 11K, appears to ask the user to let the user know
that he/she is not able to print postage onto envelopes, only
onto labels (see blocks 1128 and 1129). The "Next>" button is
25 available immediately. Once selected, the client preferably
disables printing to envelopes. A Finish portion of the Getting
Started congratulates the user for completing the wizard, and
launches the client. When this portion of the Getting Started
30 wizard has begun, the Follow the Yellow Brick Road text is
changed to "Finish". An exemplary interface for Finish screen
#1 is illustrated in FIG. 11L. The "Finish" button is preferably
available immediately. Once the "Finish" button has been
selected, the user is ready to launch the client software.

35 A re-registration process allows users to re-register across

1 systems. An exemplary flow for the re-registration process is
2 shown in FIG. 12A. To begin the re-registration process, the
3 user logs in as normal via the login dialog box shown in FIG.
4 12B. The client sends the User Name, Password, and system
5 identification information to the server. After checking for the
6 validity of the user name and password, the server checks if the
7 user is currently registered on the current system, or on another
8 system. In block 1203, if the user is registered on the current
9 system, login continues as normal, as shown in block 1204. If
10 the user is currently registered on another system, in block
11 1206, another check is made to determine if the user is currently
12 logged into the provider's service. In block 1207, if the user
13 is already logged in, the message in FIG. 12C appears. In block
14 1209, when the user selects "OK" the login attempt is aborted.

15 In block 1208, if the user is currently registered on
16 another system, and is not currently logged in, then the dialog
17 box of FIG. 12D appears. This dialog box prompts the user as to
18 whether the user wants to re-register is/her account on the
19 current machine. In block 1210, if the user selects "Yes", the
20 account is re-registered (block 1211). If the user selects "No",
21 the login attempt is aborted (block 1212).

22 The client print engine prints a Facing Identification Mark
23 (FIM) in accordance with USPS specifications. Preferably, the
24 FIM is printed within 1/8" from the top of the envelope, and no
25 more than 2 1/8" from the right hand edge, as shown in FIG. 13A.
26 A print engine supports as broad of a range of printers as
27 possible, utilizing whatever specialized techniques that are
28 deemed appropriate for proper printing of the postage indicia
29 (i.e. rotation and virtualization). Before rotation is applied
30 to an individual client, a verification is performed to verify
31 that the user's printer and print driver are known to work with
32 this technique. This is accomplished using a check against a
33 database of printers and printer drivers that are known to work
34 with rotation within the client software. This database is
35 preferably created through hands on testing. Some examples of

1 print dialog boxes for the Print Postage dialog box, Print Prompt
dialog box, and Printing Options dialog box are shown in FIGs.
13B-13I.

5 A Print Postage dialog box is the main interface from which
a user defines the postage to be printed. An exemplary interface
for this dialog box is illustrated in FIG. 13J. Return Address
items are grouped within their own frame. The Return Address box
is editable, allowing users to customize the return address by
simply typing into the box. Delivery Address items are grouped
10 within their own frame. The Delivery Address box is editable,
allowing users to insert a delivery address by simply typing into
the box. If a user adds an address which is not in the address
book, the user is prompted whether or not the address is added.
In the event that only a single recipient is chosen, the address
15 is displayed in the same format that it is in the return address
window. If multiple recipients are selected, the view is that
of a list box displaying the names of all of the recipients that
have been chosen. If multiple recipients are selected and
different recipients require mailing to different zones, then the
cost of postage is displayed next to that recipient.

20 "Do not print the Return Address" is unchecked by default.
Mail Type toggle buttons enable the user to select whether the
mail to be sent is a letter, flat, box or oversized box. This
information is used to determine what labels and/or envelopes are
available to the user, as well as what the postage rate will be.
The letter toggle is selected by default. Mail type description
25 field provides a brief description of the mail type that is
currently selected with the Mail Type toggle buttons. Print On
list box allows user to select from all Envelopes and Labels.
The items displayed in this list box are determined by the type
30 of mail that was selected in the previous list box. If a letter
is selected, only envelopes and labels approved by the USPS are
available. If a flat or box is selected, only labels approved
by the USPS are available. No values are selected by default.

35 The Enter Weight fields allow users to type in values or

1 select them using spinner controls. If the user has set up a
2 digital scale, clicking on the scale button automatically pulls
3 the value from the scale and display the value in these fields.
4 After the initial use, the fields remember the last value. The
5 "Select a Service" control is a list box, which shows the various
6 services that are available and also displays the cost of each
7 type of service for the mail piece that has been defined. The
8 prices update as the user inputs information into the Enter
9 Weight fields. If the user is typing a value, the display
10 immediately updates as the user types. If zone based postage is
11 used, and if multiple users are selected, the range of costs is
12 displayed. Once a user has selected a mail service, a graphic
13 of a check mark should appear immediately to the left of the item
14 as shown. None of the items are selected by default. Available
15 Postage display displays the available postage amount. Total
16 Mailing Cost displays the cost of the total mailing when multiple
17 recipients are selected.

18 Preview Window is dynamic, depending upon the selection from
19 the "Print Onto" list Box. Print button decides whether to print
20 a sample or real postage. This single print button advances the
21 user to the Print Prompt screen. Options button launches the
22 appropriate options dialog box, depending upon the selection type
23 into the "Print Onto" list Box. If an envelope is selected, the
24 Envelope Options dialog box will be launched. If a label is
25 selected, the Label Options dialog box appears. In the event
26 that multiple recipients and/or zone based postage rates are
27 selected, portions of the Print Postage dialog changes slightly
28 in their functionality, as shown in FIG. 13K.

29 In the exemplary screen of FIG. 13K, when multiple
30 recipients are selected, they are displayed as a list with only
31 the recipient name showing. When multiple recipients are
32 selected which span multiple zones, the price of the mail piece
33 going to an individual recipient is displayed next to the
34 recipient's name. This display only appears after a weight value
35 that warrants zone based postage has been entered. The Select

1 a Service list box shows a range of prices for the mailings. The Cost of Mailing display appears when multiple recipients are selected, and provides the user with a total cost for the mailing.

5 After the user has selected "Print" from the Print Postage dialog box, the Print Prompt dialog box of FIG. 13L appears. The Print Prompt dialog box takes on several functions, including selection of the printer, printer paper feed, and determination of whether a sample or real piece of postage is being printed.

10 The printer list boxes provide a selection of available printers. Standard Windows displays (optional) display the selected printer. Existing printer feed information displays relevant information about the selected printer. Print Internet Postage and Print Sample buttons print postage, and the Configure button launches the Print Configuration wizard.

15 Envelope Options dialog box, depicted in FIG. 13M, is launched from the Print Postage dialog box when two conditions are met: 1) the user selects the "Options" button, and 2) an envelope is selected in the "Print Onto" drop down box. Do not print a FIM check box has a small graphic icon to let the user know what the FIM barcode is. Postdate Mail piece control has a text description as shown. If the user selects the check box, the edit box becomes available to allow editing. Indicium correction items allow the user to print two forms of special Indicia: postage correction and date correction. Return Address Graphic control allows the user to select a graphic to be printed with the return address. Return Address adjustments and Delivery Address adjustments controls provide margin adjustments for the return address and delivery address, respectively. Indicium graphics that can be displayed within the Indicium are preferably controlled by the provider. To accomplish this, the system provides graphics for the Indicium in a digitally signed format, embedded within a DLL. At a minimum, this graphic is used for OEM partners. The system also provides clip art for the Indicium graphics. The system therefore makes sure that this DLL can be

1 downloaded on its own, so that a clip art library can be updated
without forcing a complete download of the client. If the DLL
is not present, this control is unavailable.

5 FIG. 13N is an exemplary interface for a Label Options
dialog box. This dialog box is launched from the Print Postage
dialog box when the user selects the "Options" button, and a
label is selected in the "Print Onto" drop down box. Do not
print a FIM check box control has a small graphic icon to let the
user know what a FIM barcode is. Postdate Mail piece control has
10 a text description as shown. If the user selects the check box,
the edit box becomes available. Indicium correction items allow
the user to print two forms of special Indicia: postage
correction and date correction. Indicium graphics that can be
displayed within the Indicium are preferably controlled by the
provider. To accomplish this, the system provides graphics for
the Indicium in a digitally signed format, embedded within a DLL.
At a minimum, this graphic is used for OEM partners. The system
also provides clip art for the Indicium graphics. The system
therefore makes sure that this DLL can be downloaded on its own,
so that a clip art library can be updated without forcing a
complete download of the client. If the DLL is not present, this
control is unavailable. Delivery Address font control allows the
user to change the font of the Delivery Address by launching a
secondary dialog box.

25 A Print Configuration wizard helps the user undergo three
major processes: determining top, center, or bottom offset (if
needed), providing print verification, and Printing a QA
envelope. The print engine preferably incorporates the
provider's logo into the Indicium. Rather than integrating a
30 single static logo graphic, the print engine accommodates a
scalable graphic. The reasoning behind this is as follows. In
order to conform to the FIM placement standards which requires
that the FIM consistently be printed 2" +/- 1/8" from the right
hand edge of the envelope, the space available between the FIM
35 and the human readable portion of the Indicium will change

1 depending upon the right hand margin of the printer used, as
2 shown in FIG. 14A. The logo is scaled to the maximum size
3 available given the space constraints which arise from the
4 individual printer margin. This approach ensures that the
5 maximum log size is always used, as shown in FIG. 14B.

6
7 A means by which users can customize their mail piece with
8 a graphic file of their choosing is provided by the system. The
9 system provides users with the ability to incorporate a graphic
10 into the return address space. Specifically, the client software
11 allows the user to incorporate a standard graphic into the area
12 to the left of the return address, as shown in FIG. 15A. The
13 default state is that no logo is selected for this position. In
14 the event that no logo is selected, the layout is as shown in
15 FIG. 15B. The controls for the determination of the image to
16 occupy this space are found in the Print Postage Options
17 (Envelope Printing Options) dialog box of FIG. 15C. When Include
18 Graphic check box is selected, it indicates that the print engine
19 should print a graphic file. When this check box is not
20 selected, the print engine should not print a graphic. The
21 default for this check box is unselected. Selecting the Browse
22 button opens a standard file browse dialog box, which allows the
23 user to browse for and select a file. Preview Window provides
24 a preview of the selected graphic once it has been selected.

25 A personal address book may be used by the user to print
26 addresses on the mail pieces. The client's native address book
27 is functional even when the user is offline. Specifically, the
28 user is able to add addresses, edit addresses, import addresses,
29 and remove addresses without requiring the user to login online.
30 In order to ensure that every address that is entered, modified,
31 or imported undergoes an AMS check, addresses undergo an AMS
32 check at the time the postage is printed to an address (see
33 Printing description). In addition to the native address book,
34 the system provides support for a variety of external address
35 books. Examples of some of the address books supported include
Microsoft Outlook™, Schedule +™, Symantec ACT!™, Lotus

1 Organizer™, Lotus Notes™, GoldMine™, Microsoft Windows Address
book, and the like.

5 The client's support for the external address books is such
that the user can read data from any of these address books from
within the standard client address book interface. The data is
able to be read in real time. In addition, the user is able to
make changes to addresses and write these changes back to the
external address book. In order to allow the user to select
10 which address book to use (either the native or any of the third
party address books), several controls are added to the client
Address Book interface, as shown in FIG. 16A. Select an Address
Book combo box contains a list of all address books that are
supported by the client, and have been installed by the user.
The default is set to the system's Address Book. Preferably,
15 this drop down box remembers the last selection. Select a
database or file combo box control displays a list, which
includes the default file or database (depending upon the
provider), and any other file that the user has previously opened
using the browse button. Browse button allows the user to open
additional files or databases for the Address Book selected by
launching the appropriate "open" dialog for the provider.
Preferably, when possible, the only controls on the Address Book
20 provider's open screen is the bare minimum that are required to
open a file. The user can modify addresses using the
"properties" button. Based upon which Address Book is selected,
a different set of fields is displayed within the edit properties
dialog box. The fields map to the format of the Address Book
25 that is selected. The user has the ability thereafter to switch
Address Books on-the-fly, by selecting the appropriate Address
Book from the selection box as shown in FIG. 16A.

30 In one embodiment, the code that provides support for each
Address Book is created as a plugin, allowing users to only
download the Address Books that they want support for. The
install routine provides a means by which users can select which
35 Address Books are downloaded, and automate the installation of

1 the plugin. Support is provided for importing other address
2 data. For example, the system provides import filters for the
3 following: Daytimers, The Learning Channel products, MYOB, and
4 the like. Also, Address Books support standard group
5 capabilities. The system is capable of providing support for
6 foreign addresses, and is able to pass AMS matching checks.
7 Furthermore, the system provides the capability to print
8 addresses that have been returned by AMS in a format that
9 includes both upper and lower cased alpha characters. In other
10 words, the address that is printed should preferably have the
11 same formatting of upper and lower case characters as the user
12 originally entered. When multiple recipients are selected from
13 the Address Book, the dialog box shown in FIG. 16B appears to
14 educate the user about multiple recipient selection. Selecting
15 Ok closes the dialog box and returns the user to the Print
16 Postage dialog box. If the user selects the check box (which is
17 unselected by default), this dialog box will not appear again in
18 the future.

19 The Address Book within the client provides a utility to
20 import text files that have been exported from other Address
21 Books. Typically, when a user imports a text file, the user need
22 to "map" the fields from the original file into the fields of the
23 destination file. This is very cumbersome for the user, and
24 often prevents users from successfully importing files. To avoid
25 forcing the user to map fields, the system provides import
"filters," that are unique filters written for each Address Book.
Since each filter is unique to an individual source file, the
filter knows the data field structure of the source file (and it
knows the data structure of the destination system Address Book).
30 With this knowledge, the import filter is able to import files
from other Address Books without requiring any data structure
input from the customer. To meet the brandability needs, the
system accommodates an easy addition of import filters.

35 The system also provides a flexible messaging system, which
includes a communication channel between the provider and its

1 users through the client software. Messages may be created by
various departments within the provider's organization and are
pushed by the server to one of several types of messaging dialog
boxes. Some examples of messaging dialog boxes are described in
5 detail below.

10 FIG. 17A is an exemplary message dialog box. The graphic
indicates the message category, the Text box displays characters
of text in a non-editable text box, the URL Link button is
dynamic and is available only when a URL address is included with
15 the messages, and the OK button closes the dialog box. If
applicable, selection of the OK button also executes a function
(see specific cases, below). For client / server communications,
the server is able to assign a message to any of the following:
Individual users, all users, and a group of users (defined by any
20 attribute that system stores). The client checks the server for
messages awaiting the individual user at login. If a message is
found for the individual user, the server sends the following
information down to the client: Message type, Message Text, and
URL link. In addition, if the message type is "payment" the
25 following information are also sent: date of payment rejection,
type of payment for payment rejection, account for payment
rejection, and amount of payment rejection.

30 In the event that a message is awaiting a user at the time
of login, the client displays one of several types of messaging
dialog boxes. The specifics of the dialog box that is displayed
is dependent upon the "Message Type" that awaits the user.
Generally speaking, the types of messages available fall into one
35 of two categories: generic or template. The generic message type
includes marketing messages, customer support messages, etc,
where the intent of the messaging is simply to communicate with
the user and perhaps provide a URL link. The template message
types include payment resubmission, email resubmission, and plan
change notifications, where in addition to sending a message to
the user the messaging dialog box allows the user to take action
35 on the message. In one embodiment, template dialogs are hard

1 coded into the client system to accommodate the special actions
that are taken. Marketing Messages allow the provider to
communicate with the user base. For example, the Marketing
Message dialog box allows the provider to promote an item that
5 is sold on their web site, and provide a URL link to that item.
An example of the specific components of a marketing message are
shown in FIG. 17B. In the Icon graphic, a generic Marketing
Message icon appears. The text for Text box is customizable at
the server. If the provider wants to associate a URL with the
10 message, a URL link button named "More Info..." appears. The OK
button closes the dialog box.

A Customer Service Message is preferably the same in
functionality as the Marketing Message dialog box, except that
the graphic icon is different. The different graphic
B15 communicates to the user that this message is a different type
of message than a Marketing Message. The Customer Service dialog
is designed to communicate customer support issues, as shown in
FIG. 17C. A Credit Card Promotion message type, as shown in FIG.
17D allows the provider to broadcast credit card promotions to
the users. The graphic icon communicates the message type to the
user. In one embodiment, this graphic includes the MasterCard
20 logo. The text on the URL link button reads "Apply Now". FIG.
17E is an exemplary dialog box for Payment Resubmission Message.
The Payment Resubmission Message is a template type of message.
The purpose of this template message box is to convey to a user
25 that a payment has been rejected, and facilitate a payment
resubmission by the user. As illustrated in FIG. 17E, a Payment
Message icon appears in the icon graphic. The Text box is
dynamic, explaining the details of the failed transaction. The
end of the message typically reads "Select OK to resubmit your
30 payment," and the OK button closes the dialog box and launches
the purchase postage screen.

Email Resubmission Message is a template type message, whose
purpose is to notify a user when the system does not have a valid
35 email address for him/her, and enable the user to provide this

1 information. Exemplary elements of this type of message dialog
are shown in FIG. 17F. An Email Message icon appears in the icon
graphic. The text for the Text box is static and the contents
of the text box are shown in the graphic. An Email edit box
5 allows the user to enter an email address, and the OK button
closes the dialog box, and sends the user's email address to the
server.

10 A Change in Service Plans Message (also a template type
message), indicates when new plans are available to a user, or
if the user's current plan is going to be grandfathered. This
message dialog basically indicates the change to the user and
links the user to the change plans dialog and to more information
about change plans, if desired. Exemplary elements of this
dialog are shown in FIG. 17G. As shown, a Service Plans Message
15 icon appears in the icon graphic. The text for the Text box is
dynamic, and displays the plan changes. This text ends with the
text string "Select 'OK' to view the new plan, or cancel to
continue. The OK button closes the dialog box, and opens the
Change Service Plans dialog box. The Cancel button closes the
20 dialog box without opening the Change Service Plans dialog box.
A Message Log is created to list a history of the messages that
a user has received. This log is accessible from the "Accounts"
screen, and have the standard layout and capabilities of the
other logs within the client.

25 The client software checks for available updates at the
beginning of the installation routine, before any files have been
installed, and at each login. At each of these times, the client
checks for an available update. If an update is available, a
dialog box appears. This dialog box provides a message which
30 communicates the details of the available update, and provides
a URL link to a website where the update file can be downloaded.
The update file may be classified as either mandatory or
optional. If the update is mandatory, the update is installed
by the user. If the update is optional, the user can choose
35 whether or not to install the file. There are no restrictions

1 regarding how many update messages can be sent out, and the
update message is not tied into the standard messaging described
earlier in this document. The auto update feature is able to
copy individual files so that a version can be updated without
5 requiring a complete update.

10 In one embodiment, the system includes OEM branding
capabilities. The system allows for the customization of the
installation script in several ways, including the option of
running a silent install, defining a default installation
directory, and defining a default installation group. The
default behavior of the installation routine is to run as an
application that is visible to the user, and requires user input
on multiple screens during the installation process. The system
provides the option of a "silent install", which installs the
50 program files to the user's system without being visible, and
without requiring user intervention. The installer is told where
to install the product's files. While the user may choose to
install the product in any directory location they want, the
installer offers them a choice consistent with the product
identity. Every product is placed in a sub-directory within the
master directory. The OEM partner has the ability to provide a
name for both the master directory and sub-directory into which
the product is installed. Program group, or "folder", is the
location in which the installer displays the product if the user
20 does not manually choose a different one. The system allows the
OEM partner to customize the Default Program Group name. The OEM
partner does not have the ability, however, to change the name
or associated icons of the items within the group.

25 The system provides the ability to co-brand the software by
providing prominent partner logo placement on the main screen
within the software. In one embodiment, the logo placement is
in the upper left hand corner of the main screen, below the
provider's logo. An example of the layout of the provider's logo
and the partner logo are shown in FIG. 18. The client software
30 provides URL links which can be defined by the OEM partner.

1 Specifically, the client software allows URL links to be
5 embedded within two areas of the main client screen, the
provider's logo in the upper left hand corner of the main screen,
and the partner logo on the main screen. The system also
provides a space within the postal indicium that is designated
to display a logo or slogan of the OEM partner.

10 The system incorporates client server technology which
enables the provider to provide OEM partners with data that
tracks the postage usage of customers who are using that OEM's
15 version of the client software. The client software embeds a
unique OEM identifier within each OEM version of the client
software. Once a user has registered with the provider, that
user is thereafter associated with the OEM that is identified
within their client software. This association, as well as all
20 tracking activities, are transparent to the user and require no
additional intervention by the user. In the event that a user
gets the client software through an Affiliate Partner's web site,
the account number that a user is assigned will embed in it
information that identifies the source Affiliate Partner.
25 Therefore, this account number is uploaded to the Postal Server,
which occurs at the end of the Registration wizard. In the case
of an affiliate partnership, the tracking number is extracted
from a cookie that has been downloaded onto the users computer.
The details concerning formatting and requirements of the cookies
are covered in a separate document.

30 A change of Address wizard is designed to help a user
through the process of changing either a physical or mailing
address, and the meter license ramifications that may result.
An exemplary process flow of the Change of Address wizard is
35 shown in FIG. 19A. In block 1901, the Change of Address Screen
#1 serves the purpose of welcoming the user to the wizard using
the text as shown in FIG. 19B. Selecting "Next>" advances the
user to the next screen of the wizard. In block 1902, the Change
of Address Screen #2 allows the user to enter a new mailing
35 address and/or physical address. As shown in FIG. 19C, the

1 controls used are the same as are used in the Addresses screen
of the Getting Started wizard. The only difference is in the
introductory text. The client checks for a PO Box in the
physical address fields. If a PO Box is provided, the error
5 message indicates that a PO Box is not acceptable. These fields
are preferably pre populated by default. In blocks 1903 and
1904, addresses are checked and in block 1905, the Change of
Address Screen #23, shown in FIG. 19D, appears. This screen
preferably serves the same purpose as the Submit screen of the
10 Registration Wizard, and preferably uses the same controls. One
difference is that in this case, the only information that is
populated is the address information that is provided in screen
#2.

15 Change of Address Screen #4, shown in FIG. 19E appears when
a change in the meter license is not required (i.e. if the
physical address hasn't changed or if the physical address hasn't
resulted in a changed LPO), as shown in blocks 1906 and 1907.
In this event, in block 1910, the server submits a 3601C form,
and this screen appears to let the user know that the address has
been successfully changed. The Change of Address Screen #5
20 (shown in FIG. 19F) educates the user about the process that
needs to be undertaken in order to withdraw and reapply for a
meter license. Selecting "Next>" prompts the user with a warning
dialog box, as shown in FIG. 19G. If the user responses "Yes"
25 to the warning, the meter is withdrawn, and "moved" is inserted
into the reason for withdrawal on the 3601 C form (see block
1913), and the mailing address that is provided at the beginning
of this wizard is used for the mailing of the refund check. This
withdrawal should not result in a "slot" becoming available for
30 a brand new user, as this user will re-register momentarily and
take the "slot" again. If the user enters "no", the wizard is
canceled.

35 Change of Address Screen #6 notifies the user that their
meter license has been withdrawn. In addition, it prompts the
user for a new user name and password. The controls used for

1 this screen, shown in FIG. 19H, are the same as those used in the
user name screen of the Getting Started wizard. The client
verifies with the server that the user name is unique. The
client also verifies that the password meets the preferred basic
5 criterion for example, of 6 characters minimum, with at least 1
alphabetic character and 1 numeric character. Change of Address
Screen #7 (shown in FIG. 19I) lets the user know that the final
step is to go through the Registration Wizard. Selecting "Next>"
10 launches the Registration wizard with all known fields being pre
populated. In addition, the wizard preferably should not check
for an available "slot", since the users are just using their
existing "slot".

Q15 In one embodiment, the system includes a dialog box, which
can change payment methods and be accessed from the Account
screen. An exemplary interface for this screen is illustrated
in FIG. 20A. This screen preferably has the same functionality
as the Select Payment Method screen of the Getting Started
wizard, but formatted into a dialog box format. This dialog box
is dynamic. The Select Payment Method screen of the Getting
Started wizard is also dynamic. When the user first sees the
dialog box, the only control that is available prompts the user
for a Payment Type (i.e. Visa, MasterCard, American Express,
ACH). If the user selects any of the credit card types, the
screen dynamically builds to add the additional controls that are
required to extract credit card information, as shown in FIG.
20B. These controls are described in the Getting Started wizard
above. If the user selects ACH, then the screen builds
dynamically to contain controls that extract the ACH information
that is necessary in order for the provider to bill an account.
25 The specifics on these controls are discussed within the Getting
Started wizard above, and are integrated into the dialog box
setting, as shown in FIG. 20C.

30 In one embodiment, the system allows the user to change the
service plan in which the customer is participating. This is
35 accomplished through several screens which have many of the

1 attributes of the Service Plan screens within the Getting Started
wizard. This functionality is accessed when the user selects
"Change Service Plan" from the Accounts screen. Once the user
selects "Change Service Plan" from the Accounts screen, the
5 Change Plan dialog box (shown in FIG. 21A) appears which has
controls that are similar to those found on Service Screen #7 in
the Getting Started wizard with one addition. Specifically, a
line of text is added at the top of the screen that displays the
name of the Service Plan that the user is currently signed up
10 for. Once the user has selected "Ok" in the Change Plan dialog
box, the Change Plan Contract dialog box, shown in FIG. 21B,
appears. This dialog box preferably uses the same controls as
screen #8 in the Getting Started wizard (described above), and
displays the contract for the new service plan that the user has
15 selected.

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25 If the user selects the "I Accept" radio button on the
Change Plan Contract dialog box, and then selects "Ok", the
dialog box shown in FIG. 21C appears. The purpose of this dialog
box is to communicate to the user when the change will come into
effect. Selecting "Ok" completes the Change of Service Plan
process. If the user selects the "I do NOT Accept" radio button
on the Change Plan Contract dialog box, and then selects "Ok",
the dialog box of FIG. 21D appears. This dialog box provides a
warning to the user that unless the contract is accepted, the
service plan will not be changed. If the user selects the "Go
Back" button, this dialog preferably closes and the Change Plan
Contract dialog should appear again. If the user selects the
"Cancel" button, the change of plans process is canceled.

30 FIG. 21E depicts a dialog box that allows users to inform
the provider when their email account names have been changed.
This dialog box is accessible from the Account screen. The edit
box control on this screen allows the user to enter a new email
address. If the user enters an address and selects OK, the
client uploads the new email address to the server. If the user
35 selects Cancel, the operation is canceled. A Change Password

1 option in the Account Screen is provided. The dialog box that
is launched from this option is updated to reflect the password
functionality as defined in the Getting Started wizard. In one
embodiment, the password screen requires a new password type. The
5 preferred requirements for the new password type are that the
password be at least 6 characters in length, have at least 1
alpha character, and at least 1 numeric character. A password
recovery function allows a user to get a new password in the
event that it is forgotten. This process does not require the
10 user to interface with Customer Service. This process relies
upon the secret code or key word phrase that the user provided
in Service Screen #4 of the Getting Started (at the end of the
Getting Started wizard, this keyword is uploaded to the server
and stored as part of the user's personal profile).

Q15 The initial login screen provides the interface whereby the
users typically inputs their passwords. If a user enters
incorrect information, a message such as the one shown in FIG.
22A appears. As an added measure of security, if the user enters
incorrect information ten times, the system keeps showing the
user the above message even if the user enters the correct
information. The user is forced to close and re-open the client
to try again (although they won't know this) or contact Customer
Support. If the user enters the information correctly, the
confirmation message shown in FIG. 22B is displayed. The "OK"
20 button closes the client. If the user never receives the email
or the letter, they preferably have to repeat the process to have
a new password sent out. The Customer Support (CS) Manager is
able to modify the text of the Reset Sample email by going
25 through normal operational email update procedures.

30 Once the user gets the temporary password, the user uses it
to log in as normal. Once the server verifies that the password
is valid, an additional check is made to determine whether the
password that is provided is a temporary or long term password.
If the password is a temporary password, then the client software
35 launches the change password dialog box, and does not allow the

1 box to be closed until the user enters the old password and a new
one. A Message Log lists a history of the messages that a user
has received from the provider. This log is accessible from the
"Accounts" screen, and have the standard layout and capabilities
5 of the other logs within the client.

10 FIG. 23 is an exemplary interface for a Withdraw Meter
dialog box. Reason for withdrawal combo box allows the user to
select a reason why he/she is withdrawing the meter. The user
can type in their own response or select from any of the
following standard responses; too expensive, difficulty
connecting, too much lost postage due to printing mistake, no
support for windowed or pre-addressed envelope, incompatibility
with other software, requires printing of address and 'stamp'
015 together, no longer have significant mail volume, poor customer
support, and the like. Future Products used combo box helps
better understand why customers are terminating the provider's
service. Specifically, this control allows the user to indicate
what postal solution he/she will use in the future. The user can
type in a response or select from the following: regular stamps,
postage meter, or alternative Internet Postage product. A prompt
20 appears in the combo box that reads "<type in or select one>",
if the user chooses to type in a response. Address fields define
where the refund check will go. These fields are pre-populated
25 with the user's mailing address, but the user can make any
desired changes to the address. Once all of these fields are
filled in, selecting the OK button submits a request to withdraw
a meter to the server. The server processes the appropriate
withdrawal forms to the USPS on the user's behalf.

30 A Postal Meter License wizard is also provided. This option
within the Options screen launches the new Registration wizard
(which is a subset of the Getting Started wizard). The specific
screens that make up the Registration wizard are shown in the
process flow of FIG. 24. The screens numbers in the process flow
of FIG. 24 refer to screens of FIGs. 10B-100 of the Getting
35 Started wizard portion of this document. In order to change an

1 address, the user selects the Change of Address wizard.

5 A Setup Digital Scales option is also provided. This new option launches the Setup Digital Scale dialog box shown in FIG. 25A. This dialog box is used to select and configure digital scales. In this dialog box, Select a Scale combo box allows the user to select from a list of supported digital scales. This list checks for all scales that are supported, such as the Weighttronics™ digital scale. Select COM port combo box allows the user to select which COM port the digital scale is attached 10 to. The list includes all of COM ports on the user's system. Web Link button links the user to provider's site. The test button runs a test to make sure that the communication to the selected scale on the selected COM port is functional. If the test successfully communicates with the scale, the dialog shown 15 in FIG 25B appears. If the test is unsuccessful, the dialog box shown in FIG. 25C appears. The system supports the calculation of postal rates based upon zones. As a result, the system is able to support Express and Priority mailings. The implications 20 of zone based postage are discussed in the printing section of this document.

25 Every "View History" dialog box adds print functionality, so that historical reports can be printed. Specifically, the View Postage Purchase History, View Postage Printed History, and View Messages History all add a Print button at the bottom of the screen. The number of events that are printed is defined by the purge control, which also controls the number of items that are displayed.

30 It will be recognized by those skilled in the art that various modifications may be made to the illustrated and other embodiments of the invention described above, without departing from the broad inventive scope thereof. It will be understood therefore that the invention is not limited to the particular embodiments or arrangements disclosed, but is rather intended to 35 cover any changes, adaptations or modifications which are within the scope and spirit of the invention as defined by the appended

1 claims.

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